Presentation
by

Colonel Thomas Smith
Commander, Memphis District

Mississippi River Commission High Water Inspection Public Meeting

Tiptonville, Tennessee
April 7th, 2008

Presentation
by

Colonel Thomas Smith
Commander, Memphis District

Mississippi River Commission High Water Inspection Public Meeting

Memphis, Tennessee
April 8th, 2008

GLOBAL WAR ON TERROR

Our People ...
Operations Enduring Freedom and Iraqi Freedom Volunteers
Bill Kiddy
Ann Cornett
Frank DeBoer
Eric Valentine
Jim Simmons
Roberta Williams
U.S. Army Corps of Engineers
Memphis District
Gulf Region Division
US Army Corps of Engineers
Revised January 2008

U.S. Army Corps of Engineers
Memphis District

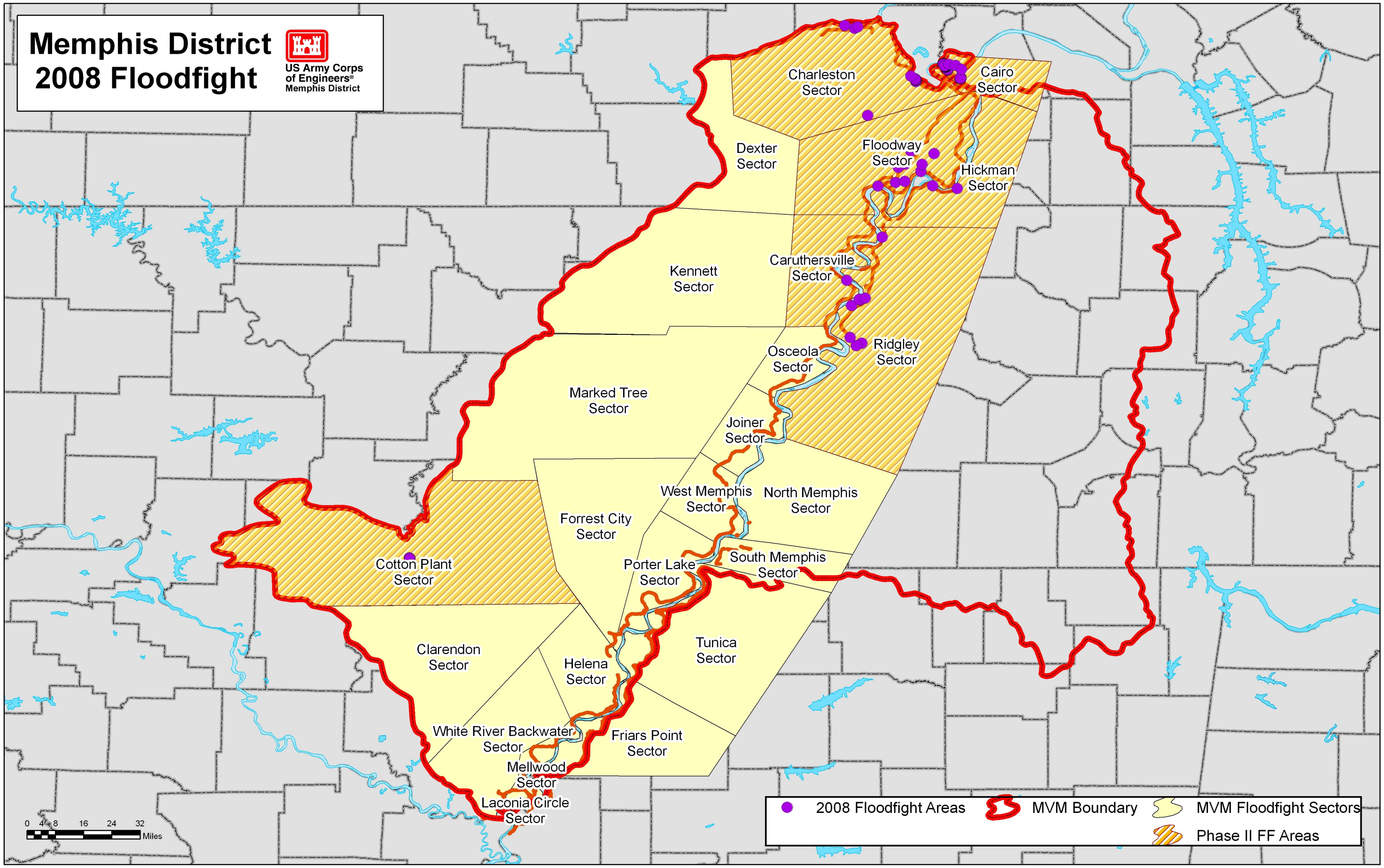
FLOODFIGHT 2008

MISSISSIPPI RIVER COMMISSION
ESTABLISHED JUNE 1879

JCT
74
A
MO 8169 AN
74
STUTTGART FIRE DEPT
Emergency Operations
Welcome
City of New Madrid
Riverfront
Park

Listening, Inspecting, Partnering, Protecting

FLOOD FIGHT 2008


Memphis District
2008 Floodfight
US Army Corps of Engineers
Memphis District
Charleston Sector
Cairo Sector
Dexter Sector
Floodway Sector
Hickman Sector
Kennett Sector
Caruthersville Sector
Osceola Sector
Ridgley Sector
Marked Tree Sector
Joiner Sector
West Memphis Sector
North Memphis Sector
Forrest City Sector
Cotton Plant Sector
Porter Lake Sector
South Memphis Sector
Clarendon Sector
Helena Sector
Tunica Sector
White River Backwater Sector
Friars Point Sector
Mellwood Sector
Laconia Circle Sector
0 4 8 16 24 32 Miles
● 2008 Floodfight Areas
MVM Boundary
MVM Floodfight Sectors
Phase II FF Areas

FLOOD FIGHT 2008

Construction work on the Dyer County Little Levee

JCT
74
A
MO 8169 AN

Boat traversing the streets of Dutchtown, MO.

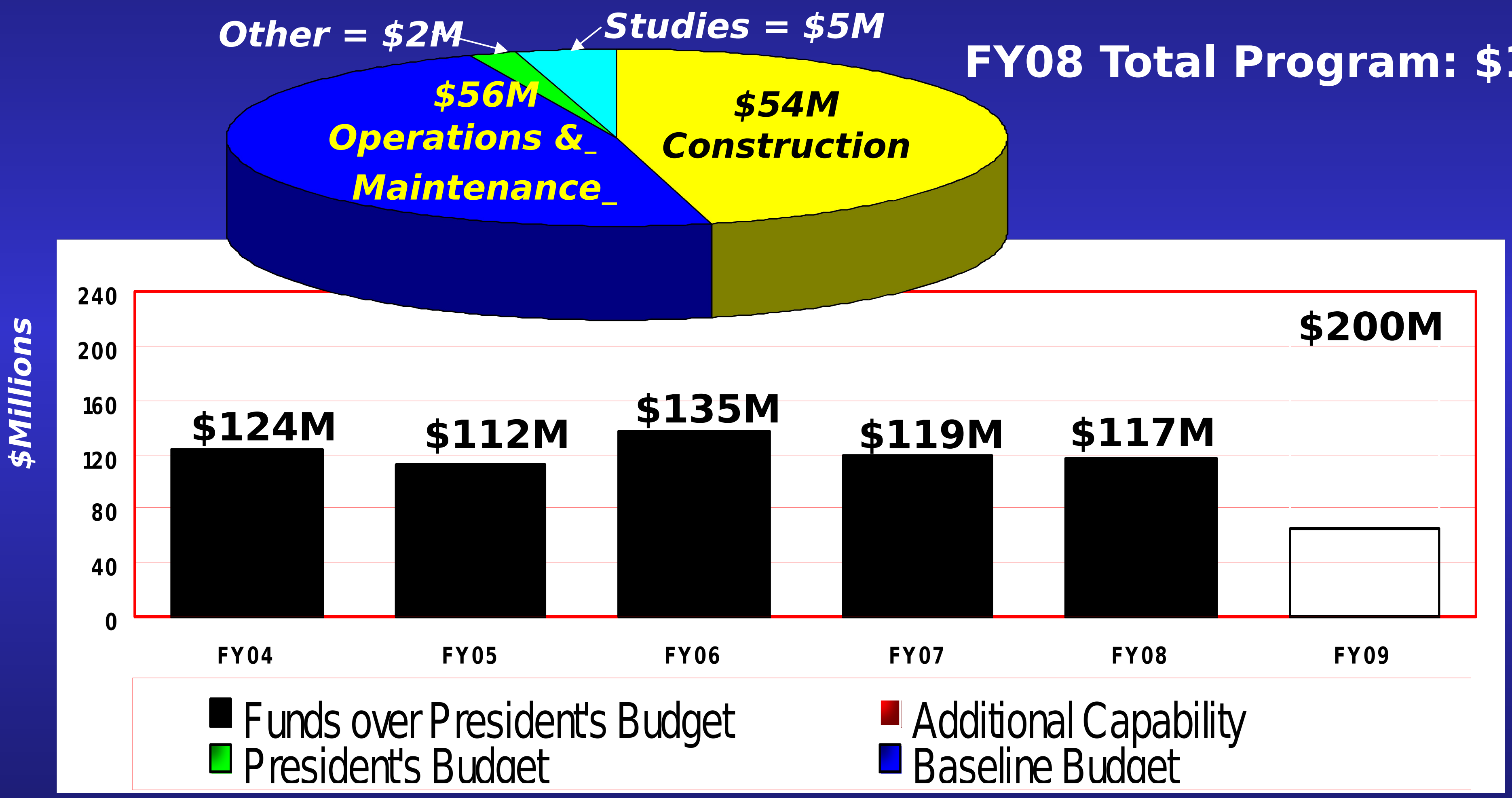
**Corey Williams inspect
sand boil near Fulton,**

U.S. Army Corps of Engineers
Memphis District

CIVIL WORKS PROGRAM

MISSISSIPPI RIVER COMMISSION
ESTABLISHED JUNE 1879

HISTORY & PROJECTIONS -- DIRECT APPROPRIATIONS



FY08 Total Program: $11

Listening, Inspecting, Partnering, Protecting

FLOOD RISK MANAGEMENT

Sand bagging White River, AR. sand boils

Listening, Inspecting, Partnering, Protecting

MISSISSIPPI RIVER LEVEES (MRL) CONSTRUCTION

FY 2008 Funding: $ 11.5 million

Baders, Missouri Relief Wells

MISSISSIPPI RIVER LEVEES MAINTENANCE (MRL)

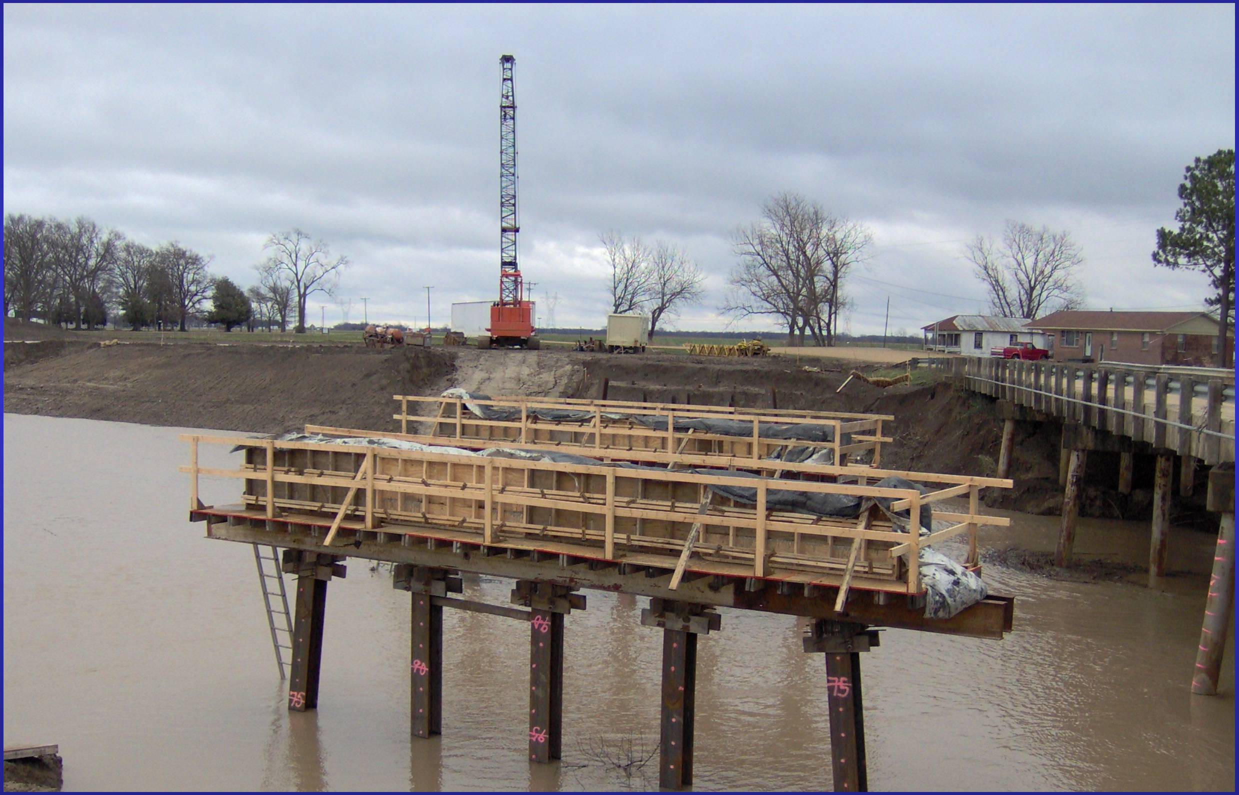
FY2008
Funding: $4.7 million

Hickman, KY Floodwall

West Memphis, AR Lime/Fly-ash Slurry Injection

ST. FRANCIS BASIN, AR & MO CONSTRUCTION

FY 2008 Funding: $6.9 million



Crittenden County, Arkansas Bridge, Mile 20.01

ST. FRANCIS BASIN, AR & MO MAINTENANCE

Above Haleside Ditch, AR

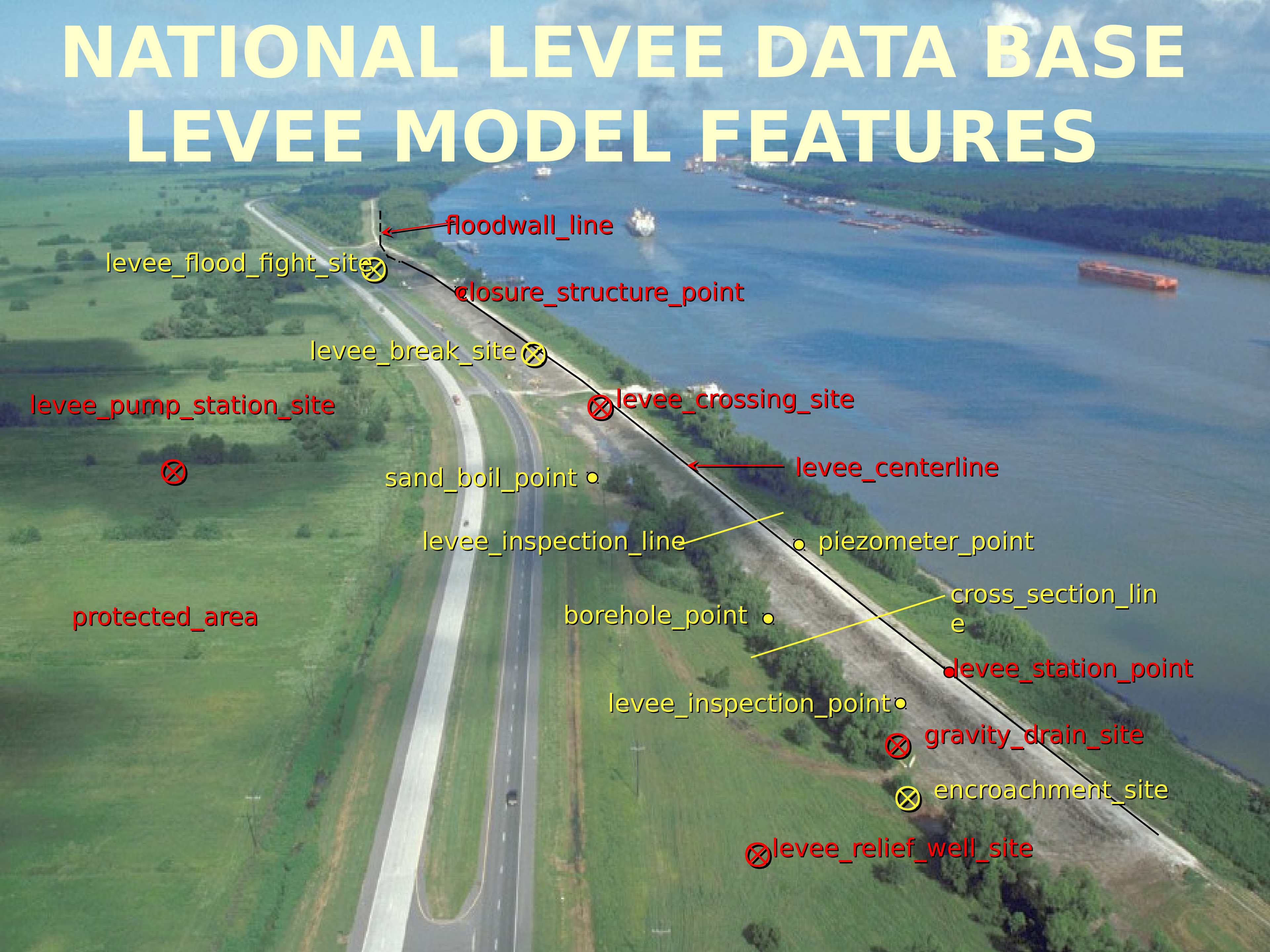
FY 2008 Funding:
$9.8 million

Inspection of Completed Works and Levee Certification

Mississippi River Levee in Southeast Missouri

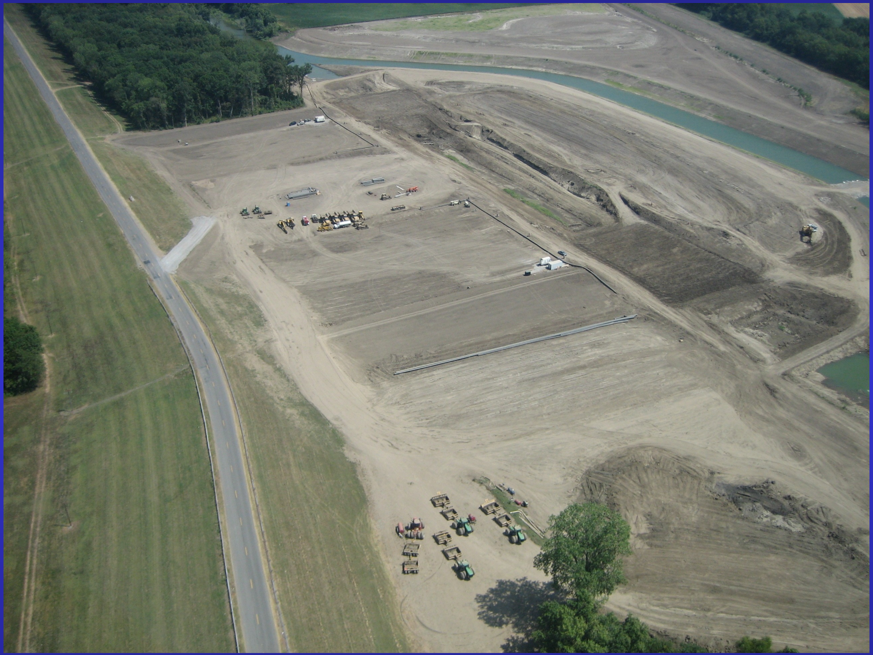
Rob Rash, St. Francis Levee District of Arkansas, makes a point at the MR&T Levee Partnering Conference

NATIONAL LEVEE DATA BASE
LEVEE MODEL FEATURES


floodwall_line
levee_flood_fight_site
closure_structure_point
levee_break_site
levee_pump_station_site
levee_crossing_site
levee_centerline
sand_boil_point
levee_inspection_line
piezometer_point
cross_section_line
protected_area
borehole_point
levee_station_point
levee_inspection_point
gravity_drain_site
encroachment_site
levee_relief_well_site

ST. JOHNS BAYOU & NEW MADRID FLOODWAY, MO

FY 2008 Funding: $492,000



Initial Construction Activities

2008 high water in the floodwa

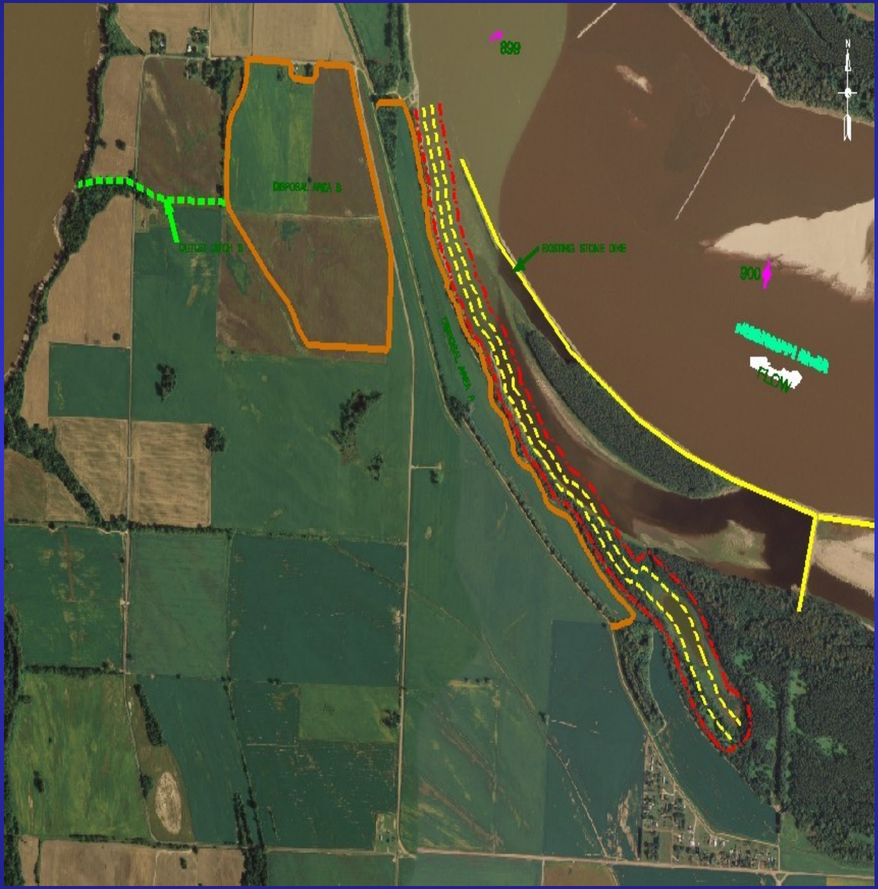
NAVIGATION

Dredging

Bank Grading

Dike Construction

NORTHWEST TN HARBOR


899
DISPOSAL AREA B
OUTLET DITCH B
EXISTING STONE DIKE
900
DISPOSAL AREA A
MISSISSIPPI RIVER
FLOW
N

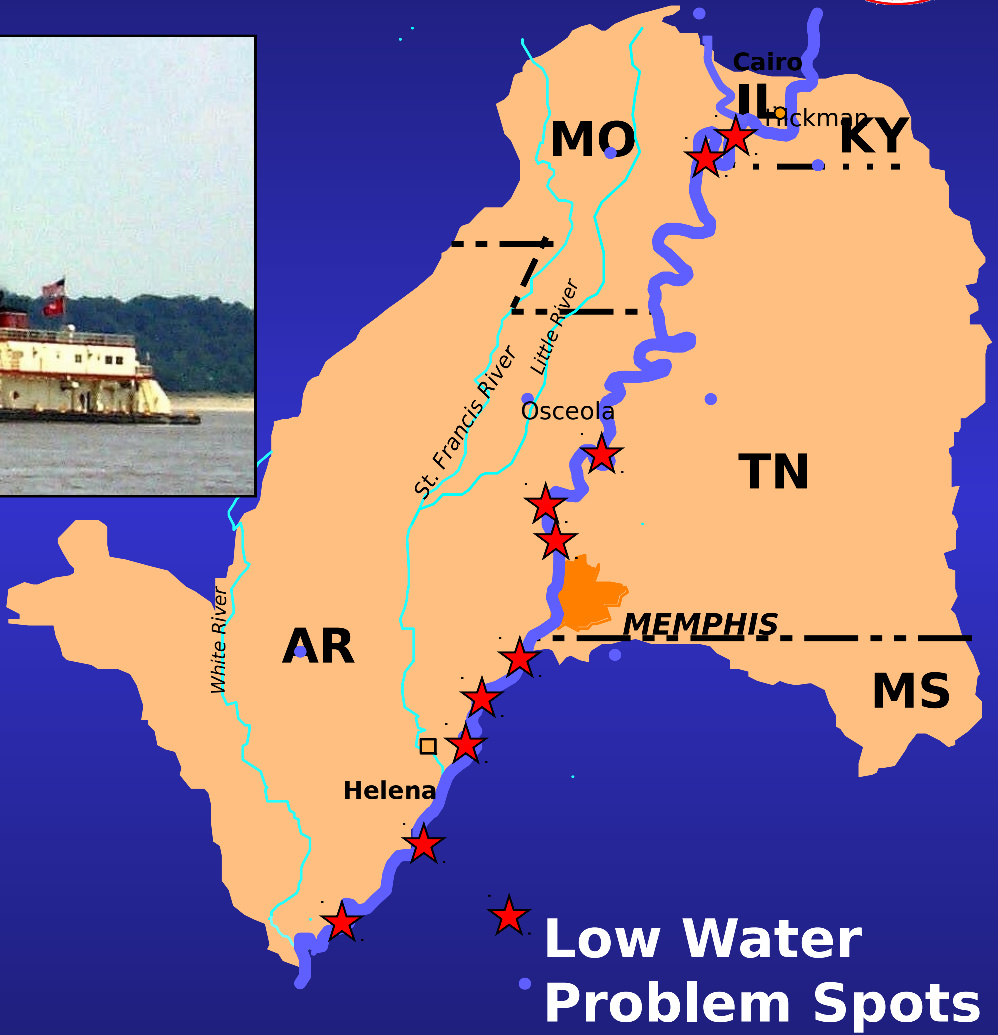
New Harbor at Mississippi River Mile 900, near Tiptonville, TN.

NAVIGATION DREDGING

Dredge Hurley

FY 2008 Funding:

$10.0 million


Cairo
IL
Hickman
MO
KY
Little River
St. Francis River
Osceola
TN
MEMPHIS
AR
MS
White River
Helena

★ **Low Water Problem Spots**

HARBOR DREDGING

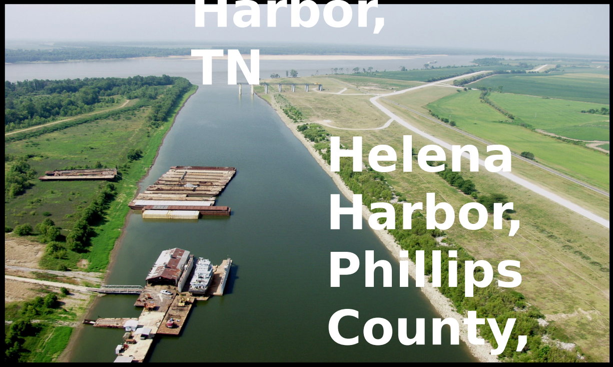
Elvis Stahr Harbor, Hickman, KY

Osceola Harbor,

Wolf River Harbor, TN

New Madrid County Harbor,

New Madrid City Harbor, MO


Helena Harbor, Phillips County, AR

Memphis Harbor, McKellar Lake, TN

Caruthersville Harbor, MO

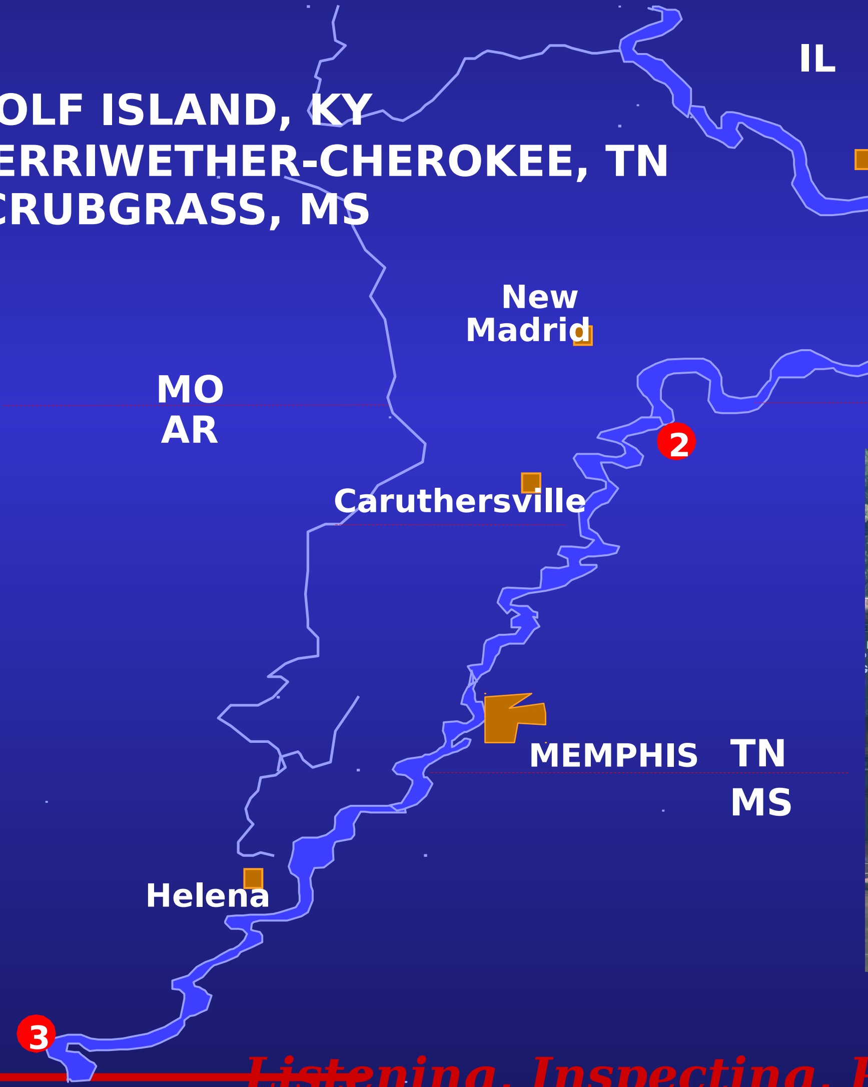
Helena Harbor, AR

Listening, Inspecting, Partnering, Protecting

CHANNEL IMPROVEMENT REVETMENTS

① **WOLF ISLAND, KY**
② **MERRIWETHER-CHEROKEE, TN**
③ **SCRUBGRASS, MS**

FY 2008 Funding: $23.1 million


IL
Cairo
1
New Madrid
Hickman
KY
TN
MO
AR
2
Caruthersville
MEMPHIS
TN
MS
Helena
3

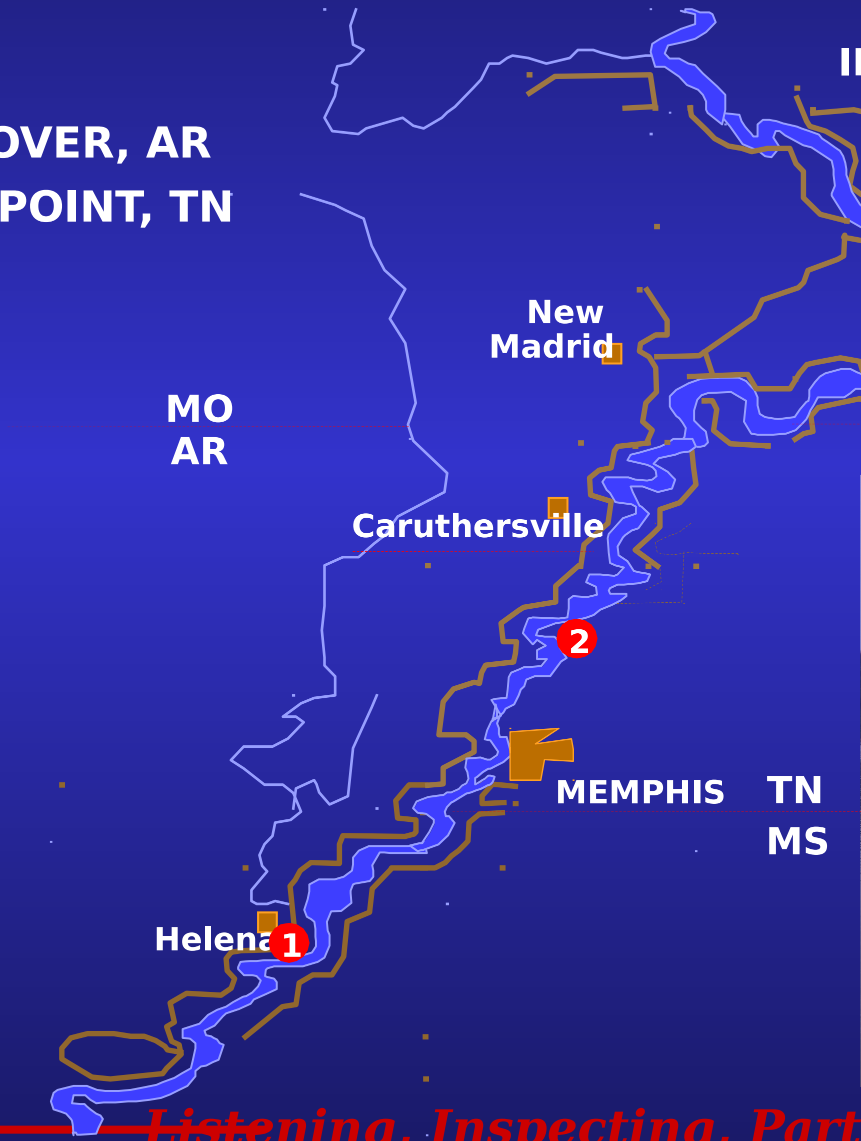
DISTRICT
'S ENGINEERS
GRADER
19

Bank Grading Operations

CHANNEL IMPROVEMENT - DIKES

① WESTOVER, AR

② PLUM POINT, TN


IL
Cairo
New Madrid
Hickman
KY
MO
AR
TN
Caruthersville
2
MEMPHIS
TN
MS
Helena
1

FY 2008 Funding: $10.4 million

Dike Construction

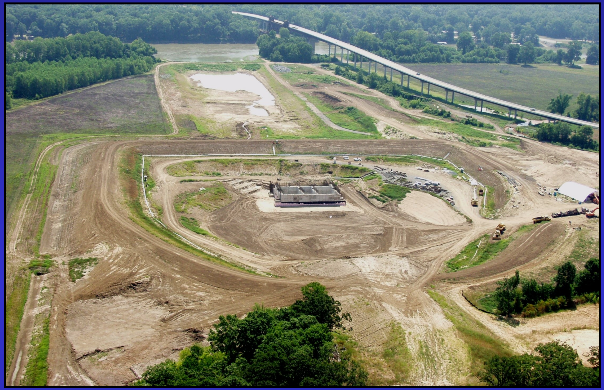
WHITE RIVER, AR

FY 2008 Funding: $2.6 million

White River, AR Clearing and Snagging

ENVIRONMENTAL STEWARDSHIP

GRAND PRAIRIE REGION, AR



Pumping Station Construction Site at DeValls Bluff, AR

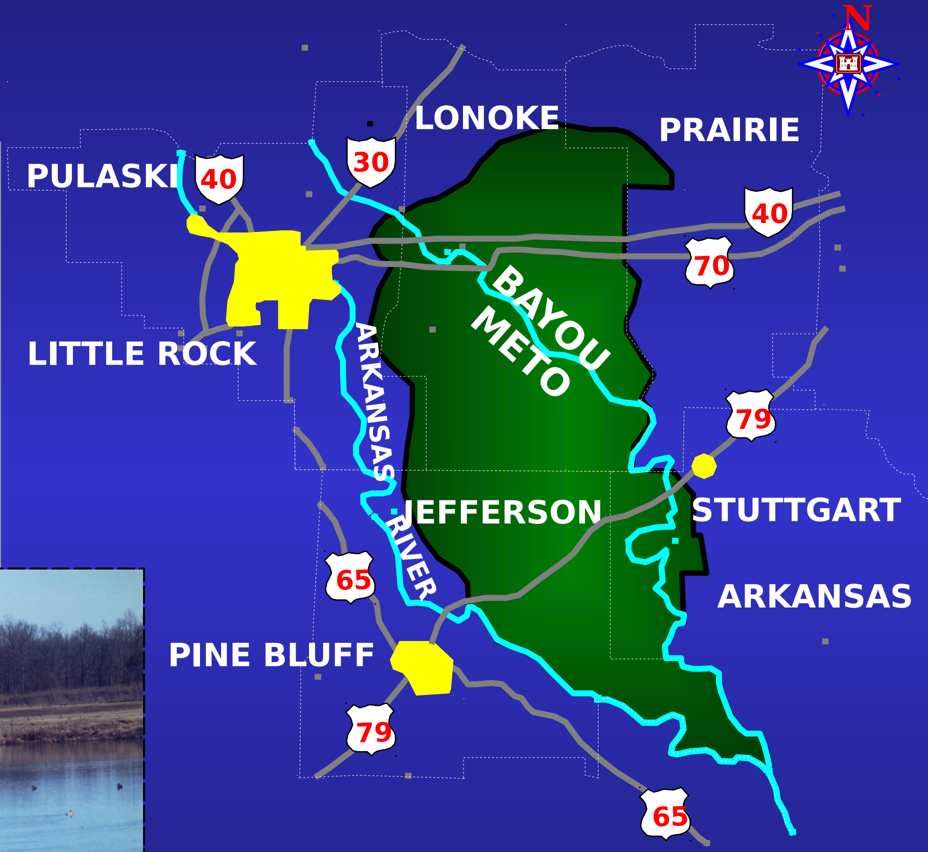
Unloading and storing new pumps in Memphis

BAYOU METO BASIN, AR

Water Supply

Flood Damage Reduction

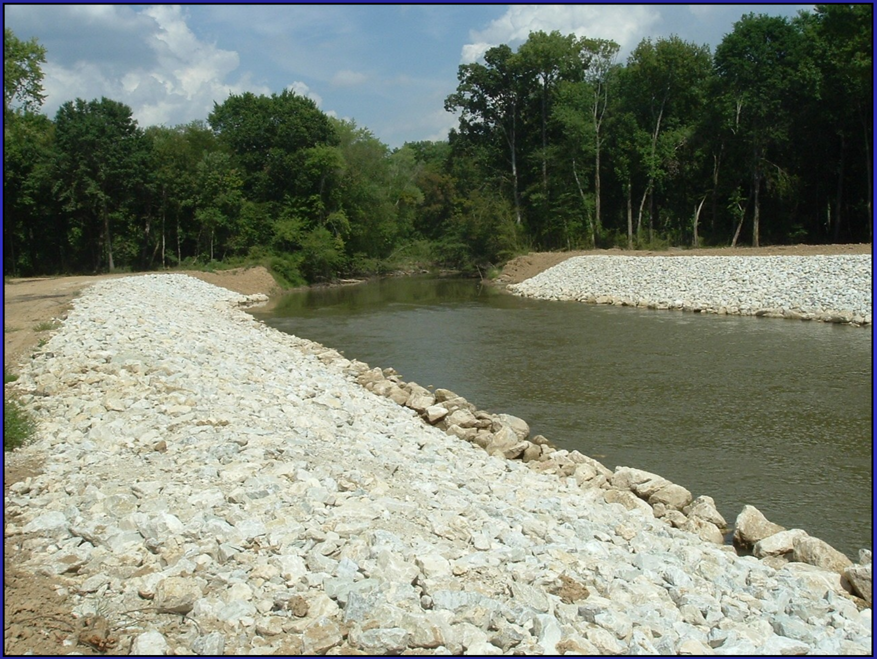
Waterfowl Management


N
LONOKE
PRAIRIE
PULASKI
40
30
40
70
BAYOU METO
LITTLE ROCK
ARKANSAS RIVER
79
JEFFERSON
STUTTGART
65
ARKANSAS
PINE BLUFF
79
65

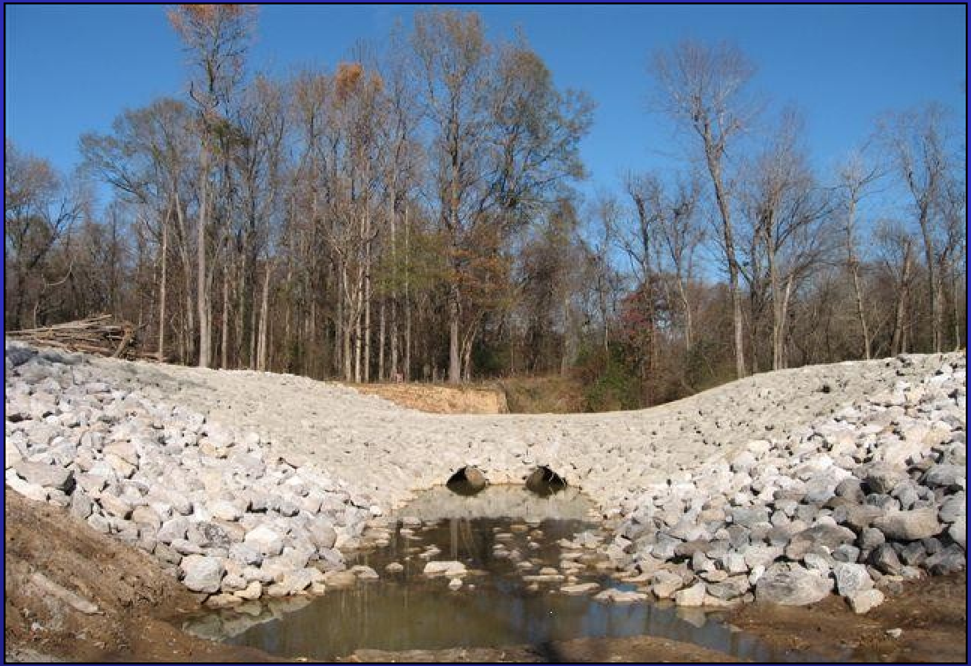
FY 2008 Funding:
$2.6 million

WOLF RIVER, TN RESTORATION

FY 2008 Funding: $197,000

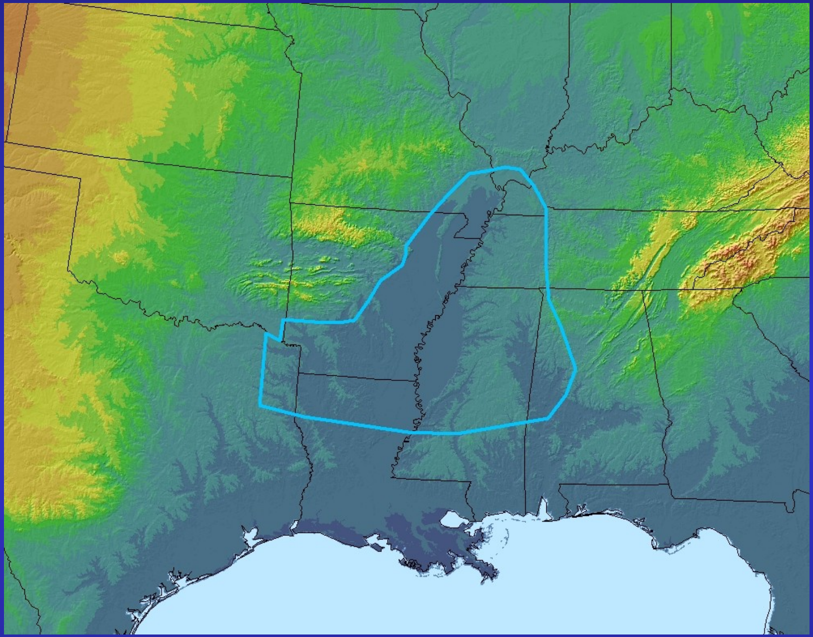


Channel Stabilization Weir

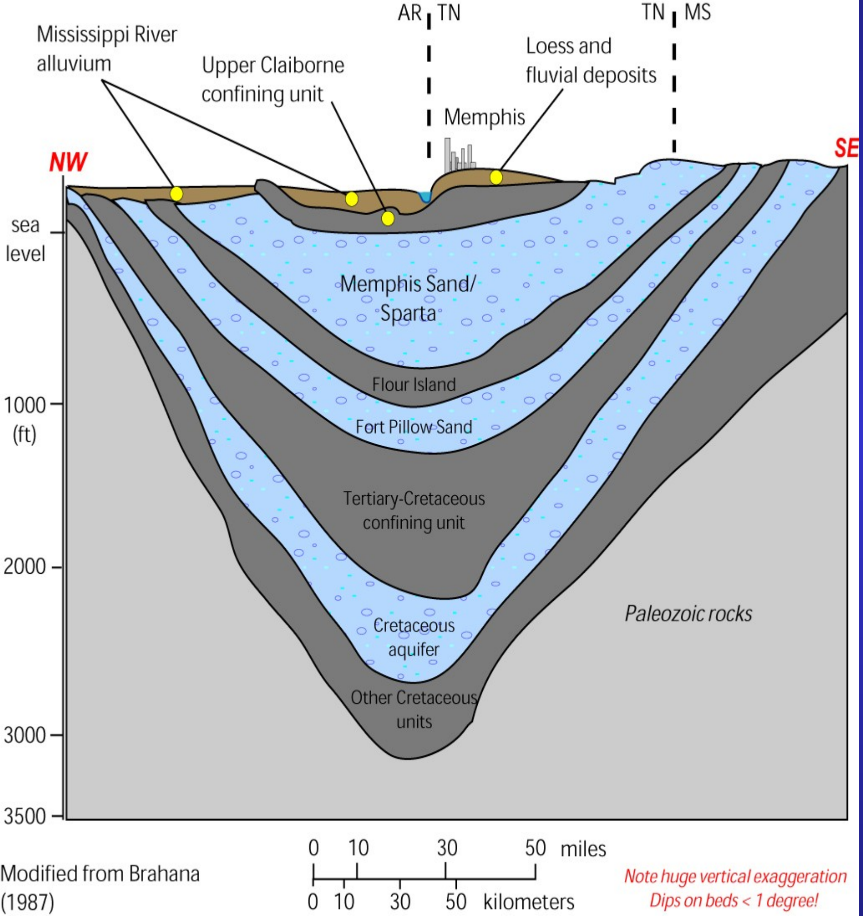


Tributary Weir

UPPER MISSISSIPPI EMBAYMENT
TN, AR, and MS



Embayment Area


AR
TN
TN
MS
Mississippi River alluvium
Upper Claiborne confining unit
Loess and fluvial deposits
Memphis
NW
SE
sea level
1000 (ft)
2000
3000
3500
Memphis Sand/ Sparta
Flour Island
Fort Pillow Sand
Tertiary-Cretaceous confining unit
Cretaceous aquifer
Other Cretaceous units
Paleozoic rocks
0
10
30
50
miles
0
10
30
50
kilometers

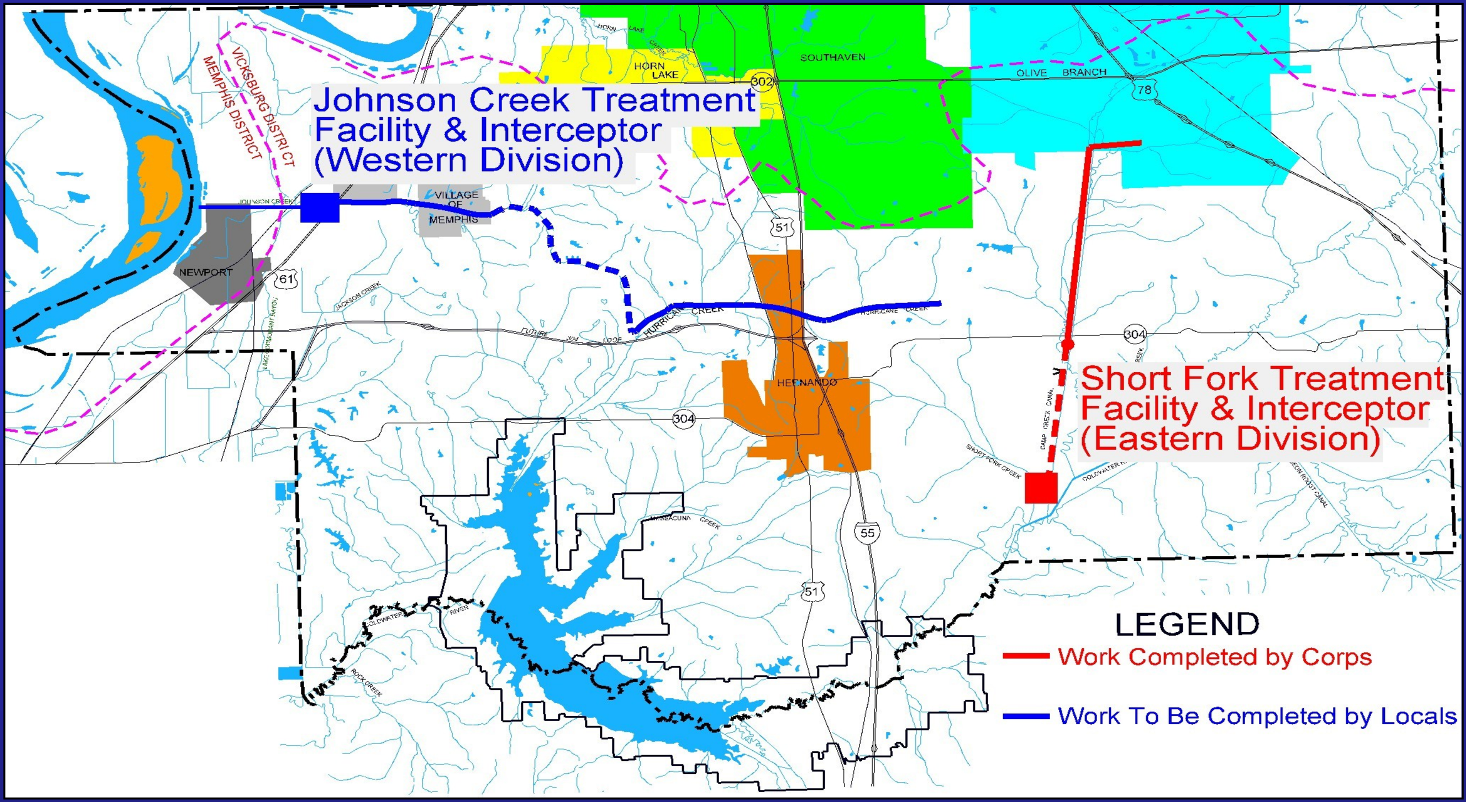
Modified from Brahana (1987)

Note huge vertical exaggeration
Dips on beds < 1 degree!

Aquifer Stratas

FY 2008 Funding: $0

DESOTO COUNTY, MS ENVIRONMENTAL INFRASTRUCTURE

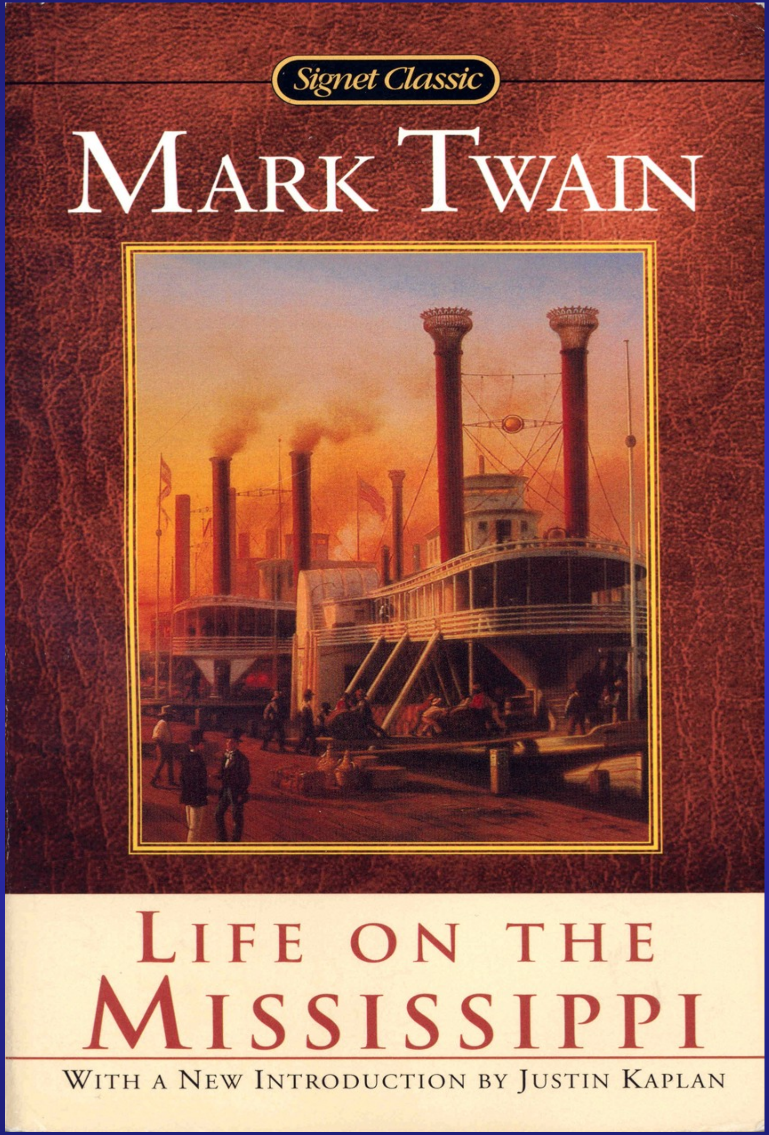

Johnson Creek Treatment Facility & Interceptor (Western Division)
Short Fork Treatment Facility & Interceptor (Eastern Division)
LEGEND
Work Completed by Corps
Work To Be Completed by Locals
VICKSBURG DISTRI CT
MEMPHIS DISTRICT
HORN LAKE
HORN LAKE CREEK
SOUTHAVEN
OLIVE BRANCH
VILLAGE OF MEMPHIS
NEWPORT
JOHNSON CREEK
JACKSON CREEK
HURRICANE CREEK
FUTURE 304 LOOP
HERNANDO
CAMP CREEK CANAL
SHORT FORK CREEK
COLDWATER RIVER
ROCK CREEK
302
78
51
61
304
55

FY 2008 Funding: $ 9.8 million

Listening, Inspecting, Partnering, Protecting

U.S. Army Corps of Engineers
Memphis District

MISSISSIPPI RIVER COMMISSION
ESTABLISHED JUNE 1879



Signet Classic

MARK TWAIN

LIFE ON THE MISSISSIPPI

WITH A NEW INTRODUCTION BY JUSTIN KAPLAN

Listening, Inspecting, Partnering, Protecting